

form; firm and extensive adhesions. Weight of tumour, thirty-eight pounds. Anæsthesia. *Death* on the sixth day, from secondary hemorrhage.

CASE XXX.—Operation, 16th of December, 1854; patient, Miss D. P., aged 49 years. Incision about five inches long. Tumour cystiform, non-adherent, weighing eighteen pounds. Small intestines forced out and troublesome. Anæsthesia. *Recovery.* Still living.

Note.—The anæsthetic agent produced the same effects upon the patient as stated in Case XI.

ART. VIII.—*A Case of Removal of the entire body of the Uterus by the large Abdominal Section.* By E. R. PEASLEE, A. M., M. D., Prof. of Surgery in the Med. School of Maine, &c. (With a wood-cut.)

THE surgeon who assumes the responsibility of a novel or rare, and, at the same time, dangerous operation, but has not the courage to report the result, unless it be successful, fails to improve an opportunity for contributing to the advancement of his profession. Every such operation is, scientifically, an *experiment*; and to give the results, in any department of science, of those experiments only, out of the whole series of the same kind, which resulted as the experimenter previously hoped they might, would be always wrong, often injurious, and sometimes productive of even fatal consequences.

It is only by knowing *all* the results in the same series of experiments that we can arrive at correct conclusions. It is, therefore, the duty of surgeons to record all their important operations in a form for future reference, if required; and especially to publish the results of all such as are new or very seldom performed. Thus alone can the true value of any operation not yet generally recognized, be decided; and so long as it can be said of any operation that but few of all the unfavourable cases have been reported, a prejudice against it (though perhaps unjust in degree) will very justly be entertained.

To secure the object in view, then, unfavourable cases are indispensable. They are also just as valuable as the favourable ones; provided they are reported with the same care and discrimination—which is, however, very rarely the fact. And we will hope that the time will come when the desire to advance the science and art of surgery may become paramount to that of blazoning forth the operator's boldness or skill, and may more frequently become the real motive for reporting operations in the public journals.

The following is a case of removal of the whole of the body of the womb, by the large abdominal section; the patient having died on the fifth day after the operation, from gangrene produced by the strangulation of two hernial protrusions.

Mrs. Dean, of B——, Vt., a widow, aged 35, the mother of four children, of good conformation, and bilious temperament, first applied to Dr. J. F. Skinner, of B——, in April, 1853; and I obtain from Dr. S.'s first letter to me respecting her, the following history of her case from the commencement till I saw her in August following.

"I found her," says Dr. S. (in April), "with a tumour in the right iliac region, which I judged to be ovarian. She was also suffering severely from tenderness of the whole spinal column, and much pain in the head; the bowels were excessively costive; there was leucorrhœa, with difficulty in micturition, and numbness in the right limb. I learned that her last labour (17 months ago) had been a tedious one, and was followed by much inflammation of the pelvic organs; and that she was several weeks in recovering so far as to be able to walk. The tumour was first noticed soon after her confinement, and since my observation, has rapidly increased."

All the troublesome symptoms were relieved by Dr. Skinner, except the difficulty in micturition; "the tumour being so movable that on assuming the erect position, it falls partly into the pelvic cavity, often stopping the flow of urine, and producing such violent spasmodic pains, that she has been obliged to have the bladder evacuated by the catheter exclusively for several weeks past. The same suffering also attends every evacuation of the bowels; and, of late, even the erect position brings it on. When the bladder is distended, the tumour will rise above the umbilicus; and on evacuating the former, it will fall as low as the pubes; and I judge from its mobility that it cannot be extensively adherent, and that an operation for its removal might be advisable. Indeed, I can see no other chance of continuing life long, or even making the patient comfortable while life lasts. Dr. Newell, of Lyndon, has also examined the case, and accords with me in opinion. I would add, she has menstruated several times since her confinement, but not very regularly as to time, and with considerable pain."

I replied that ovarian tumours do not generally produce such suffering from a change of position, and that I had never seen a case attended by all the symptoms he had mentioned; that though I had successfully performed the operation of ovariectomy,¹ I considered it very rarely justifiable, though sometimes *clearly* so, and should never perform it from any other motive than a sense of duty.

Dr. Skinner replied that "he had doubts in his own mind as to an operation, and wished for advice;" and it was arranged that I should visit his patient on the 2d of August: Dr. J. P. Bancroft, of St. Johnsbury, Vt., my friend and former pupil, accompanied me, and assisted in the following examination:—

Examination of Patient, August 2d, 1853.—She is confined to her bed; is pale, and rather emaciated; tongue coated; has little appetite; can sit up but little, so much distress is occasioned by pressure from the tumour when the trunk is erect.

The tumour now lies on the middle line, is about four inches in its bilateral dimensions, and extends upwards to within one inch of the umbilicus. It is very firm, is round and smooth, except at a point two inches below the upper extremity, and to the right, where a small hemispherical protrusion apparently about one inch in diameter can be distinctly felt through the abdominal walls. The tumour is perfectly movable in all directions, but naturally inclines more to the right; and is not sensitive under pressure. The bladder

¹ See a Report of this case in this Journal—April, 1851.

is now distended with urine; but after its evacuation by the catheter, the tumour descends so as hardly to appear above the pelvis; and if the patient now rises, much distress is produced by its downward pressure.

After a thorough evacuation of the loaded rectum by an enema, I proceeded to make an internal examination.

1. *Per vaginam* the finger discovered the os uteri at the normal distance, and in its usual relations (it had been somewhat elevated when the tumour was pushed up by the distended bladder). It was patulous, and had a velvety feeling. The tumour could be distinctly felt in the region of the right ovary, it inclining to that side as it entered the pelvis; and could not be felt at all on the left side. It appeared solid as before, and was not tender on pressure.

2. An examination *per rectum* also enabled the finger to reach and to elevate the tumour on the right side of the uterus, and the body of the last seemed carried somewhat to the left. The same solid feeling before mentioned was also here detected. The tumour was very movable, as before.

3. On introducing a *speculum vaginæ*, the os uteri was seen to be slightly ulcerated, and to be in other respects normal. The *uterine sound* passed through the cervix with much difficulty on account of the very small diameter of the passage; but on arriving in the uterine cavity passed at once to the distance of three and a half inches from the os, and then appeared to reach the fundus, as it could be passed no further. The uterus is very movable, and can be carried in any direction by the sound, except to the left, while the tumour is held still in its place in the pelvis; or, the uterus being fixed by the sound, the tumour may be moved freely to and fro, without moving the womb; unless when carried against the latter to the left or in front.

4. A sound being introduced into the *bladder*, the tumour is also movable in all directions, without imparting its motion at all to that organ.

Diagnosis.—In view of the history of the case, and the facts elicited by the examination, I judged this was a case of tumour commencing in the right ovary, and not yet adherent to any other part or organ, except to the uterus, by its natural but enlarged attachments.

In this opinion I was confirmed by those of Drs. Skinner and Bancroft, who assisted me, and with whom every fact and its bearing was freely discussed during the protracted examination made. Other affections, for which ovarian tumours may be mistaken—especially fibrous and other tumours of the uterus—were constantly kept in mind, and the decision above mentioned was arrived at as the only one consistent with all the facts in the present state of our knowledge of intra-pelvic tumours.

The patient insisted on the removal of the tumour, and I was obliged to admit that this appeared a case as favourable for ovariotomy as is often seen, so far as the size and mobility of the tumour were concerned. But I should not, at any rate, operate till she was in a better general condition; and indeed would not, without further reflection, encourage the idea of operating at all, for the reasons I had previously stated in my letter to Dr. Skinner.

The patient had already been made aware of the risks of the operation by her attending physician; and to the remark that it might itself prove fatal, replied that she was already the same as dead to her two surviving children as far as assisting them was concerned; that she lived for them alone, and therefore wished to seize on any chance for a return of health and strength, however slight it might be, and however great the accompanying risk.

In view of all the circumstances, I finally consented to undertake the operation at some future time, provided she were first in a state of improved

general health so far as might be desirable, and that all the other circumstances became favourable; especially, also, that she should be removed to some not too distant point on a railroad, that I might visit her daily for any required time after the operation.

Everything subsequently becoming favourable, and every arrangement having been completed, the operation was arranged for September 21, precisely three years after the successful operation of ovariectomy before alluded to; it being understood with the patient, however, that if she then had a cough, or was in any way unwell, I should defer it till another time.

Plan of the Operation.—I proposed to make an incision four inches long through the skin and superficial fascia only, and then an opening in this, one to two inches long, into the peritoneal cavity. Then, if I discovered any error in the diagnosis, or that the tumour, for any cause, could not be removed, I should have but a small wound to close. On the other hand, if the tumour were a single sac of fluid, I would evacuate it by a trocar, and draw the sac through this small opening, and tie the pedicle; while if solid, I would enlarge the opening to the smallest required extent only, and thus remove it.

Sept. 19. On making another examination of the patient to-day at St. Johnsburg, Vt., where the operation is to be performed, in order to detect, if possible, any fallacy in the former conclusion as to the precise nature of the case, all things were found as at the first examination in August; except that the patient now appeared in good general health, though as much distressed as ever after micturition by the downward pressure of the tumour, and therefore still confined constantly to her bed. The tumour had, however, evidently increased somewhat in size, and now gave an evident, though not very distinct feeling of fluctuation. The latter fact only served to confirm me in my previous diagnosis.

She was to take a dose of castor-oil on the evening of the 19th, and only milk porridge for diet till the operation (on the 21st.)

At the time appointed the patient was placed upon a table before a window, the pubes having been shaven, and the pudenda having been covered by a cloth folded like a diaper. The precise position of the linea alba was indicated by a line on the skin made by the tincture of iodine, with some lines across it to aid in a more accurate introduction of the needles through the abdominal walls; and the patient commenced the inhalation of the pure sulphuric ether through a tube made by rolling up a common towel and confining it with pins, at half-past three o'clock in the afternoon.

Drs. Jewett and Bancroft, of St. Johnsburg, Drs. Skinner, Pierce, and Masta, of Barton, Drs. Newell and Cahoon of Lyndon, Dr. Carpenter, of Sutton, and Drs. J. V. Lansing, and W. H. Burleigh, my private pupils, assisted in the operation. The temperature of the room during it was kept at 80° (Fah.), and the atmosphere rendered humid by the evaporation of water. I had also prepared an *artificial serum*¹ with which to moisten my hands when it became necessary to touch the peritoneum, or to apply to the latter while exposed to the air.

Before commencing the operation, I remarked to the medical gentlemen present I did not think it possible to arrive at any other rational conclusion than that this was a case of disease of the right ovary; but since the best diagnosticians had erred in cases of pelvic tumours, I should commence the operation fully prepared to modify my previous plan, or even at once to close

¹ A mixture of albumen ʒv and common salt ʒiij, with water Oiv.

up the wound if a different state of things from what I expected should be found to require it.

I commenced with an incision four inches long through the skin and superficial fascia extending from a point one inch below the umbilicus to another two inches above the symphysis pubis; these layers being pinched up, and together divided from within outwards by a long and slender knife. On doing this, the sheath of one of the recti muscles was opened for the extent of one quarter of an inch; and finding it to be the *right* rectus by the introduction of a probe into the sheath, I thus ascertained the precise position of the middle line. After waiting several minutes for the oozing of blood to cease, I divided the abdominal aponeurosis to the extent of one inch and a half, and found a layer of fat one-quarter of an inch thick presenting itself, and apparently *not* attached to the inner surface of the aponeurosis. Was this, therefore, the subperitoneal layer of areolar tissue unusually laden with fat, or had I already divided the peritoneum together with the aponeurosis?—in which case this layer of fat must be the great omentum. A probe could be freely passed in all directions between the aponeurosis and the fat. Still, on evert-ing the aponeurosis, there was found to be no layer of peritoneum on its internal surface, and therefore the peritoneal cavity had not yet been opened. I therefore divided the layer of fat, and the peritoneum under it, to the extent of one inch and a half, and the tumour was brought into view. Some delay was necessitated by the layer of fat, it being different in appearance from anything I had met with before; but of course, the peritoneal cavity had not, till this instant, been exposed.

The tumour was smooth, except where the protrusion was situated which had been felt through the abdominal parietes, and which was seen to be a hemispherical sac filled with fluid, and about three quarters of an inch in diameter. It was of a pale livid colour, and perfectly free and unattached above, as had been predicted. To the touch, a feeling of fluctuation was very distinct; and all the medical gentlemen present accorded with my own opinion, that it was a very dense sac containing fluid.

I accordingly thrust a trocar into the tumour to withdraw the fluid, but *not a drop appeared*, except a few drops of blood as the canula was partially withdrawn. Thus, finding the tumour to be solid, I next enlarged the opening through the abdominal aponeurosis and peritoneum, in order to examine its attachments below. Perhaps a drachm of blood escaped into the cavity of the peritoneum while effecting this, and two minute arteries were tied to prevent hemorrhage in this direction.

The tumour was now drawn out through the incision, when, to my disappointment a second time, I found that it was continuous with the *fundus of the uterus*. Indeed, at first sight, it appeared to be merely *the uterus* very much enlarged; but, on examination, it was found to be a development *from*, and not *of*, this organ.

What was next to be done? To return the mass and close up the incision was the expedient which alone would seem to remain; but the puncture made by the trocar was now bleeding freely, and the idea of returning the tumour in that condition was not to be entertained; while, to arrest the hemorrhage for the time, by sutures, or other mechanical means, would have been merely postponing the risk without removing it. The body of the uterus was elongated and slender at its lowest part in the pelvis, from the traction upwards, probably of the tumour by the distended bladder; and it was unanimously decided, by all the medical gentlemen present, that the risk to the

patient would be no greater of removing the whole mass, including the body of the uterus, at its lowest part, than of returning the former in the circumstances just mentioned, and I decided to remove it. The patient just now began to retch quite violently, and the intestines to protrude. I accordingly at once extended the incision to the symphysis (to six inches), and passed a stout double ligature, of four threads of saddler's silk, waxed, but not twisted, through the uterus as low in the pelvis as possible, and amputated the organ above the ligatures. The left ovary being diseased, was removed with the uterus; the right was left *in situ*, ligatures having been applied so as to prevent any hemorrhage when the necessary incisions were made through the broad ligaments. The intestines were returned by the hands, after being moistened in the artificial serum, which was kept blood-warm and constantly used after the cavity of the peritoneum had been opened. An artery in the remaining portion, the stump of the uterus, had not been sufficiently constricted by the ligatures at first applied, and bled quite freely till a separate ligature was applied to it.

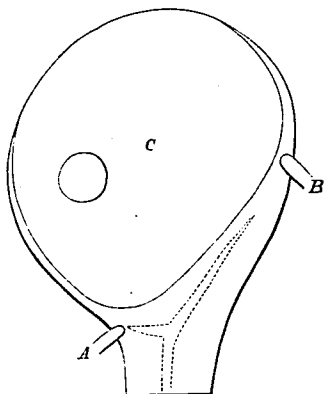
The clots were removed from the pelvis, the hemorrhage not exceeding six ounces in all; and the wound, six inches long through the superficial parts, and five inches through the peritoneum, was closed by six needles placed three-quarters of an inch apart, and seven sutures; five being between the needles, and the remaining two being at the top and at the bottom of the incision. The ligatures came out at the nearest point, between the lowest needle and the lowest suture; and a short gum-elastic tube was left introduced by the side of the ligatures. Adhesive strips were applied over the needles and sutures; a compress, saturated with warm water, and covered with oil-silk, was laid over these, and the patient transferred to her bed.

Examination of the Tumour.—The weight of the whole mass removed is nineteen ounces avoirdupois; it being five and a half inches long, four inches wide, and three inches thick. With the exception of the hemispherical sac, before alluded to, three-fourths of an inch in diameter, it is externally of uniform appearance, and still gives an indistinct feeling of fluctuation. In size and shape it much resembles the uterus enlarged by impregnation. The lower portion being slender, all the part above can be easily flexed upon that in every possible direction. The two halves of the mass are, however, not symmetrical, like the impregnated uterus; the right side being the most prominent, and the sense of touch easily distinguishes a large tumour forming in the whole upper part and the right half of the mass. A sound, also, introduced into the portion of the uterine cavity left in the mass, shows that it extends to the left side of the mass and to the distance of three inches; there being a sudden turn to the left at the distance of one inch. The Fallopian tubes were of normal size; but, while the right was nearly in its normal position, so far as distance from the cervix uteri was concerned, the left originated from the mass three inches higher up.

On making an incision through the part where the distinct tumour could be felt, the latter was found to be a fibrous growth, already softening and degenerating in its central portions. It must have originated at the right side of the fundus of the uterus and in its substance, though near the surface; and, as it increased in size, elongated the uterus, also elongating its cavity and turning it to the left. The sinuses of the uterus in its vicinity were much enlarged, and hence the fluctuation already spoken of.

The accompanying diagram gives an idea of the mass removed. A and B represent the right and left Fallopian tubes; C, the tumour bounded below

by the fine line; and the dotted lines show the form of the uterine cavity. The small sac, containing fluid, is seen at the right and below C.



Condition and Progress of the Patient subsequently to the Operation.—The following account is condensed from an hourly record made by my pupils, Drs. Lansing, Burleigh, and Lant, who constantly attended the patient in turn till her death.

To avoid repetition, I here remark that she was to take only milk porridge, or bread-water, and, later, broth, as nutriment; to take McMunn's elixir of opium, or acetas morphiae, to control pain or restlessness after reaction was established; and brandy, to aid in inducing the reaction, if required. The bladder was to be evacuated once in six hours, or oftener, if desired, by *catheterism*, for the first five or six days; and the warm water dressing was to be renewed every four hours. I shall call attention particularly to the pulse, the respiration, and the amount of urine, and divide each day into four parts, commencing at 6 A. M.

The patient completely recovered her consciousness soon after being put in bed, at 5½ o'clock P. M., and complained only of fatigue and pain in the back. At 9 P. M. reaction is established, and she is comfortable. Pulse, 96; respiration, 20; evacuated 3ijj urine. Gave gr. xxv McMunn's Elixir. At 10, pulse 104. She has a desire to evacuate the bowels. Gave an enema of ½ gr. acetas morphiae in water, 3j. Drew 5j urine, she complaining that all had not flowed before. At 11, had slept fifteen minutes; surface warm; pulse, 102; respiration, 18. Gave acetas morph. gr. ⅓. At midnight, she had slept one-half hour more. She is warm and comfortable, and sleeps one-half of the time from 12 to 1 o'clock. 2 A. M., says she is hungry; has slept most of the past hour. At 3, pulse 98; respiration, 18; obtained urine 3ijj. Having complained of thirst since the operation, she had drank, perhaps, 3viii, in all, of water. She now vomited most of this, and felt better afterwards. But she has also been *coughing* frequently; hav-

ing taken a cold, two nights ago, by sleeping with her window open. As she knew I would have deferred the operation had I known this fact, she had concealed it from me. After the vomiting, till 6 A. M., she remained very comfortable, often sleeping a few minutes at a time. Pulse from 96 to 88; respiration always 18. After examining the dressings at 4 A. M., I left in an early train for my home, sixty miles distant.

First day after Operation.—6 A. M. to 12. At 6, drew urine 5ij. Is now complaining of a pain which she refers to the womb. At 7½, the urine is passing involuntarily in very small quantity; continues only two or three hours. Up to 9, she complained of no pain; but of wind in the stomach which she made efforts to raise. The pulse is now 104, respiration 18. Has coughed frequently since 6 o'clock. At 10, the pulse is weaker. Gave 5j brandy. There is a disposition to vomit, after taking some porridge; which is allayed by some ice. At 11, pulse 108, respiration 15; sickness and efforts to vomit continue. On examining the dressings at 12 (noon), Dr. Lansing found the tube had discharged 5j of bloody serum, and injected through it an ounce of the artificial serum, which came away again. But he also found 2 *hernial protrusions*—a small one near the lower end of the incision, and a larger near the upper end. The former was reducible; but the latter was not. And, as efforts to reduce it made the patient vomit, he at once telegraphed to me the state of things. I replied that it must be reduced, and the air excluded by the dressing till I could arrive there; which must be as late as 4½ to 5 P. M. From 12 to 5 P. M. (the time of my arrival) she continued to have all the usual symptoms of strangulated hernia; the pulse becoming more rapid, but feeble, and the patient restless and oppressed with thirst. Retching still continued; and she had been supported by brandy. I found a portion of intestine as large as a hen's egg protruding between the uppermost needle and the upper extremity of the incision; and another of the size of a walnut, between the lowest two needles. Both were strangulated and irreducible herniæ; both were very livid, and covered with a plastic exudation. Pulse 128, and very feeble. I withdrew the needle below the protrusions in each instance, and returned the strangulated intestine; and then replaced them and added two other needles for greater security, and left a tent in place of the tube. All this still farther reduced the patient, and I supposed that this unfortunate occurrence must turn the scale with her, as a matter of course; and very likely she would not react at all after the shock. From 6 to 8, patient rested well, dozing much of the time. Two oz. of urine had been withdrawn just before the herniæ were reduced. At 9 in the evening, pulse 130, fuller, respiration 17, tongue moist, slight white coat. At 10, the pulse was 125, surface natural. Is lying on the right side, and complains somewhat from uneasiness of position. Changed to lie upon the back, she soon wished to resume the former position. At 11, temperature was diminished; gave brandy and water. Is troubled by her cough. Gave ¼ grain of morphia. Slept at short intervals. 12 o'clock (midnight), cathe-
terism, f3iv. Pulse 125, more feeble; respiration 16. Gave nutriment and brandy. Add more bed-clothing. 1 A. M., pulse 136. Coughed several times, and raised freely a tenacious mucus. Gave ½ grain morphia. Slept well afterwards; temperature rising. From this time till 4, she made frequent ineffectual attempts to expectorate mucus, which somewhat exhausted her; the temperature of surface continued sufficiently high; slept ¾ hour quietly at one time. Pulse 125 to 130. Took brandy twice, and ½ gr. morphia at half past 3. At 4 A. M., pulse 140, respiration 17; is placed upon the side; complains of being tired; is very thirsty. She continues thus,

with temperature rising till 7, when she had been sleeping quietly for half hour; pulse 135.

Second day after Operation.—6 A. M. to 12. At 8 A. M. feels very comfortable. Compress on abdomen stained with bloody serum that had passed by the tent. Abdomen somewhat distended by gas; no increased tenderness. Introduced catheter; no urine obtained. Expecto-
rates much thick mucus. Slight eruptions on the chest, produced by the morphia. Pain on coughing, all referred to the umbilical region; no pain elsewhere. At 9½ to 10, sleeping quietly; skin moist and natural; pulse 128, respiration 16. At 10½, obtained ̄iv of urine. She was soon after turned on the side, and both brandy and nourishment were given. At noon the pulse was 136. Awoke quite refreshed after an hour's sleep, and took some chicken broth. The tongue is more coated. She continued sleepy, and with a moist skin till 3 o'clock, when about ̄vi urine of natural appearance were drawn. Viscid mucus was freely raised several times. At 5 (48 hours after the operation), pulse 140, and fuller, respiration 21; surface less warm. At 6½, ̄iv urine were drawn, and patient changed to other side of bed. The gaseous distension of the abdomen not increased; the parts look well. Up to midnight, she had not slept much, and complained of pain in the abdomen. Took morphia twice, and brandy and broth freely. Pulse generally small and feeble, over 130. At 11, drew ̄v of urine. Has difficulty in raising mucus still. 12 (midnight), abdomen still tympanitic; in other respects appeared right. She dozes somewhat; complains of feeling faint. Pulse slightly irregular, 118 to 98, respiration 20 to 17; dreamed of home; gave brandy and broth freely. At 5, respiration was 12; probably reduced by the morphia; pulse 125, feeble.

Third day after Operation.—6 A. M. to 12. Temperature natural; tenderness and swelling of abdomen not increased. Withdrew ̄ij of urine. Patient inquires how long before she will be able to go home. Tongue as yesterday, except drier. She did not complain at all this forenoon, except in connection with her efforts at expectoration. The pulse improved in character, and continued from 118 to 128, the respiration being 12 to 14. Morphia ½ grain was given at 9 o'clock. At 10, she passed urine quite freely; and slept quietly from 11 to 12. Has, in fact, had a very comfortable forenoon. 12 to 6 P. M. At 12 (noon), she passed more urine, and the catheter withdrew ̄ij more. Swelling of abdomen not increased. In the P. M., she makes slight attempts at times to cough, but has difficulty in expectorating. At 3, drew ̄v urine. Took morphia at 1 and 4½. The pulse is more distinct and regular, and from 130 to 120; respiration 16. Has slept some twice, and complains of itching (from the morphia). Starts in her sleep, but does not moan; countenance natural; and has had a very comfortable afternoon. 6 P. M. (72 hours after operation). Abdomen less distended than 24 hours ago, and not tender on slight pressure. From this time to midnight, patient slept most of the time very quietly, the skin being moist and natural. At 9, ̄ij urine were drawn. The pulse was 124 to 128, and the respiration 16. 12 o'clock (midnight). Remains the same. At 2 A. M., and at 5, about 1 oz. of urine; and for two hours (and then after 4 again) there was great heat and dryness of skin, and thirst. She kept two hours at intervals; being restless at 4, took morphia. Pulse from 128 to 130, and feeble; respiration 15 to 16. Broth and brandy were freely given. Once expectorated freely a thick yellow mucus; and expelled some gas from the stomach.

Fourth day after Operation.—6 A. M. to 12. I spent this day with the

patient. Early in the morning the pulse is irregular, and she first ejects from the stomach a yellow fluid (apparently bile), which she says is very acrid. This continued at intervals all day, the quantity at each time, varying from $\frac{5}{8}$ j to $\frac{5}{8}$ iv. Brandy and broth are freely given, but the pulse continues small and irregular, and from 125 to 130; respiration being 18. Gave $\frac{1}{2}$ grain calomel every two hours. Urine $\frac{5}{8}$ j at 9 A. M. Complaints of griping pain in the bowels. Gave aq. menthae piperitæ. Applied a sinapism to the epigastrium. In the afternoon, used chloric ether, the vomiting of bile continuing; though she says she does feel nauseated. It became quite violent at 3, and the ejected matter of a darker colour. Pain increases in the abdomen; also felt in the chest. Applied fomentations to latter. Pulse from 130 to 140, and feeble; respiration 25 to 30, expiration longer than inspiration. Urine $\frac{5}{8}$ iv at 4 $\frac{1}{2}$ P. M. Is less pain in side. 6 P. M. (96 hours after operation). I noticed a faint gangrenous odour on examining the dressings. Gave an enema of soap and water at 9 P. M. She vomited at once. Gave $\frac{1}{2}$ drop creasote every two hours afterwards during night. Vomited often up to midnight. Urine $\frac{5}{8}$ iv at 10 P. M., reddish coloured. Just before 12, complains of deafness in the left ear; has slept some; extremities cold. Pulse has been 120 to 132, very feeble; respiration 25 to 32. 12 o'clock (midnight). Feet warm, hands still cold. A cold perspiration appears at 1; she vomits afterwards; wishes the window opened at 2; pulse scarcely perceptible at 3; respiration being 24; has moaned somewhat the last half hour, and tosses her head about in distress; thinks at 4 that she is dying, and expresses a desire to die, and a Christian hope. The vomiting continues at intervals. She is moribund at 5; vomits still; but lingers till 20 minutes past 7 A. M., when she expired on the fifth day after the operation.

Post-mortem Examination eleven hours after death.—Present, Drs. Jewett, Newell, Bancroft, and Cahoon, and my pupils, Drs. Lansing, Burleigh, and Lunt.—Slight oedema of skin upon the abdomen, and slight tympanitis. Made a narrow elliptical incision through abdominal walls, and include the original incision and two inches on each side of it. The right rectus muscle was in a gangrenous condition. The original incision was completely united, both externally and internally, except where the two herniæ had occurred; an inch remaining ununited at the upper end of the incision.

The omentum was adherent at its right lower border to the small intestine. A little blood, just enough to produce a stain, was extravasated upon the right portion of the stomach and the omentum.

Intestines.—The portion of intestine forming the largest (upper) hernia was livid and gangrenous, and slightly adherent to the edges of the upper part of the incision, which was not yet closed. There was a similar slight adhesion at the position of the lower hernia. There was some adhesion to the peritoneum at intermediate points. No strangulation at any point, but a general livid appearance of the small intestine, apparently having commenced from the two portions constituting the herniæ at first, and corresponding to the track of the wound. Some convolutions were also adherent to the left iliac fossa, and to each other; and others falling into the pelvis adhered slightly to and behind the portion of the uterus still left in the pelvis.

The small intestines were somewhat distended with gas.

Four ounces of bloody serum were found in the pelvis; and the peritoneum there was of a livid hue.

The stump was completely covered with a thick layer of plasma already beginning to be organized, and healthy in appearance. The length of the re-

maining portion of the uterus was two and a half inches. The stump was $1\frac{1}{2}$ inch wide, and 1 inch thick.

Remarks on the preceding Case.

1. Each reader will decide how far the mistake in the diagnosis was a culpable one. I availed myself, I believed, of all the means and appliances afforded in the present state of science to elucidate such cases, and the facts discovered were such, as in my opinion, could lead to no other rational conclusion than that we had here an ovarian tumour. The history of the case, the data afforded by the touch, whether applied externally, *per vaginam*, or *per rectum*, and by the uterine sound, and the sound in the bladder, all confirmed the idea of an ovarian tumour; and though some of the facts were also compatible with the supposition that the tumour was uterine, others seemed not to be so at all.

So far as form, position, and mobility were concerned, the tumour might be either ovarian or uterine. But the fact that the tumour could be moved in all directions without moving the uterus, while the sound was in the latter, the sound having passed three and a half inches into the uterine cavity and seeming to reach its upper terminus, was considered entirely inconsistent with the idea that the tumour was in the substance of the uterus.

But why did not the sound penetrate further into the uterus? Because, as the post-mortem examination showed, the cavity of the uterus turned to the left at the point reached by the extremity of the instrument. And the displacement of the mass in all directions, while the sound was in the uterus, without imparting motion to the uterus except in the slightest degree (as slight as would have been produced by an ovarian tumour, on being pressed against that organ), was subsequently accounted for by the elongated and slender form of the lower part of the body of the uterus, and its consequent flexibility at and above that point. In another similar case, I should *now* use a *flexible bougie* in exploring the length of the uterine cavity, after employing Simpson's uterine sound, as before; and finding the latter would pass only the usual distance. It will appear that the diagnosis actually turned upon this single point. If I had succeeded in passing the uterine sound to the upper extremity of the uterine cavity (five and a half inches), I should have consequently detected its enlargement, and also have fixed it so firmly that the flexibility of the lower part would not have deceived me.

But my idea of an ovarian tumour was also confirmed by the distinct *fluctuation* perceived at the examination two days before the operation. Of course a uterine tumour may also fluctuate, though very rarely when so firm and large. And this fluctuation still deceived me, even after the tumour was exposed to view during the operation. It was found to be owing to the fact that the uterine sinuses were enormously enlarged in the layer of uterine structure covering and surrounding the tumour, and were of course full of blood.

Still another thing influenced my opinion in no small degree. I allude to

the small sac containing fluid, which I could distinctly feel through the abdominal walls, on the anterior surface of the tumour. I had before repeatedly felt such projections on ovarian tumours, but never on a uterine tumour; and such a sac had always hitherto proved a true indication of the nature of the mass on which it was found, viz: that the latter consisted of a congeries of sacs of various sizes containing fluid.

I trust that by calling the attention of the profession to these causes of error on my own part, some may be put on their guard against similar results in diagnosis. In another precisely similar case, I should now adopt it as a principle to decide positively and conclusively by various explorations of the uterine cavity, that it was *not a uterine tumour* before I decided that it was *ovarian*. But if, after all, I could obtain only precisely the same data as before, I do not now perceive how I could rationally arrive at any other conclusion than the one erroneously adopted in the present case.

2. But should the uterine mass have been removed when the real state of things became apparent? I have no desire to avoid this inquiry. Many will doubtless, at once reply that the mass should have been returned, though already punctured and bleeding, and the wound through the parietes of the abdomen closed up. All the medical gentlemen present, however, thought differently. I mention this, not to throw any part of the responsibility upon others, but to show that I acted deliberately, at any rate. I should never forgive (any more than I should respect) myself, should I perform an operation, or any part of one, which I myself did not, in the circumstances, consider justifiable, whatever might be the opinions of others. And there were circumstances not likely to occur to the mind of one not present at the operation. The patient was retching violently, and it seemed utterly impossible to return the tumour and retain it there by needles, and the usual appliances in the present spasmodic condition of the muscles, even if the tumour had not been punctured. And it is still my opinion that, if it had been returned *sound*, the cough would have produced the hernial protrusions, which subsequently did occur, to a still greater extent and certainty. The abdominal walls had not been distended as in cases of ovarian dropsy; and, therefore, the removal of the tumour rendered hernial protrusions less liable to occur from leaving the abdomen so much the less full and tense. But to return the mass still bleeding was out of the question, and to stop the hemorrhage for the time, and return it with the certainty that it would again occur internally, was an expedient at once rejected.

I had, however, realized the possibility of an error in diagnosis; and in endeavouring to include all the *possibilities of the case* in my mind, the very thing I now found to exist had occurred to me, and I had previously decided what would probably be best in the circumstances.

But this decision involved the removal of the *entire body of the uterus through the abdominal walls*, an operation which had not been performed in this country, so far as I am aware. This organ had been successfully removed through the

vagina in cases of cancerous affection by Sauter, Recamier, and Blundell. The operation decided on had once been performed by Langenbeck. Dr. Clay, of Manchester, England,¹ had also performed it; the patient dying of hemorrhage seventeen hours afterwards. Aside from the risk of hemorrhage, the danger of life seemed to me even less great of removing the body of the uterus in this way than of removing the entire organ through the vagina.² The shock could be no greater,³ and the peritoneal cavity would not be exposed at all after the incision in the abdomen was closed, as it must be to some extent after its removal through the vagina.

Such were the facts and the reasoning which had previously prepared my mind for the removal of the uterus, if the circumstances seemed to require it.⁴

3. But was not the removal of the uterus the cause of the fatal result? I should reply in the negative. If the removal of this organ proves fatal, I suppose it must be so from the *shock*, from *hemorrhage* at the time, or subsequently (as in Dr. Clay's case), or from *inflammation*, either peritoneal or extending from the seat of the amputation to the surrounding parts. But death from shock would have occurred in a few hours, at all events within two days. I provided for hemorrhage (the cause of death to Dr. Clay's patient), by the use of the elastic tube for the first twenty-four hours; but none occurred at all. I suspected at the time, however, that the desire to evacuate the bowels, soon after the operation, was produced by the pressure of blood flowing from the stump. Again, the stump was not inflamed at all, as found at the autopsy. On the contrary, all progress had been made which was possible towards healing over during the interval after the operation.

What, then, was the fatal element in this case? Merely opening the peritoneal cavity may prove fatal, but then the cause of death is *peritonitis*. In this case, the extent of the peritoneal inflammation was merely proportional to the slightly developed symptoms before death; and it alone, I judge, could not have proved fatal. Besides, its location was such as to suggest the idea that another cause than an exposure of the general cavity produced it. The symptoms, also, during the last two days, were those of gangrene, and not of peritonitis.

I am, therefore, constrained to regard the hernial protrusion, the morning

¹ Lond. Med. Gazette, vol. xxx. p. 309. 1844.

² Still there is a case on record in which the uterus was *torn* away by an ignorant midwife, supposing it to be another child; and yet the woman recovered.—*South's Chelius's Surgery*, vol. iii. p. 569.

Delpech thinks the removal through the abdominal walls the safer operation.—*Mémoires des Hôpitaux du Midi*, Oct. 1830, p. 695.

³ Gendrin thinks that in the cases in which death ensued within forty-eight hours after the operation (through the vagina), it was consequent on the depression caused by the pain from dragging down the uterus during the operation.—*Journal Générale de Médecine*, Oct. 1829, p. 91.

⁴ Since commencing this report, I have learned that Dr. G. Kimball, of Lowell, Mass., has performed this operation *successfully*.

after the operation, and the consequent strangulation and gangrene, as the cause of death. The intestine was strangulated for five hours after they were discovered, and probably ten or eleven hours in all (i. e., from the time when the patient first began to cough—5 to 7 A. M.), and were all this time indirectly exposed to the air. I accordingly, at 5 P. M., found the protruded portions cold, livid, and covered with an exudation. Probably the vitality was so exhausted already, that no effort was made at reaction of the circulation after the intestine was returned. I had not the least expectation that there would be, at the time. The *post-mortem* appearance went to show that the gangrene extended from the portions of bowel which had been implicated, and thence to the peritoneum; while the peritonitis and the adhesions were principally found to correspond with the incision through the abdominal walls. Considering the state of the patient at the time of reducing the hernia, I did not expect she could recover at all from the shock of that procedure, and the necessary removal and reintroduction of the needles. And yet all this would probably have been avoided had the patient not concealed from me the fact that she had a cough.

4. Finally, I recall the idea of using an *artificial serum* in all cases in which the cavity of the peritoneum is exposed to the air. I have since used it in a case of ovariectomy, and, I think, with advantage. It is merely a common-sense idea that the more nearly the peritoneum is kept in its natural state of moisture and warmth, while exposed to the air, the less is the risk of inflammation of the same. And for this object the artificial serum and the warmth and moisture of the air in the room during the operation, were all deemed important.

BOWDOIN COLLEGE, *March 1st, 1855.*